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Jukka WALLENIUS

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LETTER TRANSMITTING PRIORITY DOCUMENT

In order to complete the claim to priority in the above-identified application under 35 U.S.C. §119, enclosed herewith is a certified copy of the foreign application on which the claim of priority is based: Great Britain on July 2, 1999, No. 9915581.4.

Respectfully submitted,
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April 24, 2007

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A TERMINAL FOR USE WITH AN INFORMATION NETWORK

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A TERMINAL FOR USE WITH AN INFORMATION NETWORK

Field of the Invention

The present invention relates to a terminal for use with an information network. In particular, but not exclusively, the terminal is a mobile terminal and the information network is the worldwide web or Internet.

Background to the Invention

In wireless cellular telecommunication networks, the area covered by the network is divided into cells. Each cell is provided with a base station which is arranged to transmit signals to and receive signals from mobile stations in the cell associated with the respective base station.

The mobile station is able to move within the network and can be in any cell of the network. It is also possible for the mobile station to be used in networks operated by different operators. This is because network operators often have roaming agreements to permit mobile stations to operate in different networks.

Some mobile stations, particularly when in the form of a portable computer or used in conjunction therewith are able to access the Internet. Accordingly, a browser may be provided either in the portable computer or if used in conjunction with a mobile telephone, in the telephone itself, which stores bookmarks. These bookmarks identify websites which can be accessed via the Internet. Bookmarks are provided to allow a user easily to access websites which the user uses regularly. Some or all of these bookmarks may relate to local services. For example, one bookmark may allow the user to access a website which includes train time table information for the city of London. This is useful if the user, for example lives in London. However, if the user were to go to Paris, the bookmark would still take the user to the

website listing the train times for London. This is then of little use to the user when he is in Paris and requires train times for Paris.

Summary of the Invention

It is an aim of embodiments of the present invention to address the problems described hereinbefore.

According to one aspect of the present invention there is provided a terminal for use with an information network, said terminal comprising a register for storing content information defining the content of one or more sites in said information network to enable automatic location of sites having content corresponding to the content defining information.

This information can be used to assist in finding other sites corresponding to the content information defining the content of the site.

Preferably, the register is arranged to store information on the address of at least one site having the content defined by the content information. The terminal may be arranged to send a request for address information on a site which has a content defined by the content information. The request for the address information may request the address of a site which has the content defined by the content information and which additionally relates to the current location of the terminal. Alternatively, the request for address information may request the address of a site which has the content defined by the content information and which additionally relates to a predetermined location.

The requested address may replace the current address in the register which is associated with the content information. Alternatively, the requested address may be stored in the register along with the home address associated with the same content information. The terminal may be arranged to select one

of a plurality of requested addresses which are associated with the same content information. The terminal may be arranged to store a plurality of requested addresses which are associated with the same content information. The terminal may have means for permitting the user to select at least one of the stored addresses.

The terminal may be arranged to request at least one address of at least one site corresponding to content information stored in said register in response to the occurrence of at least one predetermined event. The at least predetermined event may be one or more of the following: change of location area of the terminal; the terminal registering with a new network; the terminal entering a different country; the terminal entering a new geographical location; and the terminal leaving a geographical location.

The terminal may be arranged to store the address of a server and a service provided by the server. Alternatively, the terminal may be arranged to store a uniform resource locator.

The terminal may be a wireless terminal or may be incorporated in a portable computer. The wireless terminal may be a mobile station.

The information network may be the internet and the terminal may have browser capabilities. The content information defining a site may be received in content response message headers from the site.

The terminal may be arranged to obtain information as to its position, said information being used to determine if the terminal is in an area associated with a given site. If the terminal is determined to have left said area, the register may be updated. The frequency with which the terminal obtains information on its position may be dependent on the area associated with a given site.

The terminal may be arranged to store the content information defining a site upon a user storing in the register the address of that site. The terminal may be arranged to obtain the content information defining a site from a classification service when a user stores in said register information on a site selected by the user.

According to a second aspect of the present invention, there is provided a register for use with an information network, said register storing content information, associated address information identifying sites which contain the content defined by said content information and location information identifying the geographic location with which the site defined by said address information is associated.

The information network may be the internet. The address information may comprise bookmarks. The register may be arranged to receive requests for associated address information. The requests may comprise content information and geographic location information. Geographic location information may comprise: cell area; group of cell area; location area; group of location area; networks; groups of networks; country; and/or groups of countries.

The register may be arranged to output at least one address information associated with the requested content and geographic location information. The register may be arranged to output all of the address information associated with the requested content and geographic location information. Alternatively, the register may be arranged to select one or more of the address information associated with the requested content and geographic location information. The selection may be made at random or in accordance with rules for selecting the best match.

According to a third aspect of the present invention, there is provided a classification service provider, said classification service provider being arranged to classify the content of at

least one site of an information network to enable automatic location of sites having a desired content.

The provider may provide at least one attribute of the content of said at least one site. The content can be classified using a pattern matching algorithm. Alternatively, a store is provided for storing classification information on the content of at least one site.

The information network may be the internet and the provider may comprise a search engine.

The classification service can of course be used in combination with the terminal described hereinbefore.

The classification service provider may be arranged to receive requests from the terminal for classification of the content of at least one site, address information of which is stored in the terminal. The request may be sent when the address information corresponding to said at least one site is first stored in the terminal. The terminal may be arranged to store classification information received from the provider, the classification information comprising the content information.

Embodiments of the present invention may comprise a system including a terminal as discussed hereinbefore, a classification service provider as discussed hereinbefore and/or a register as discussed hereinbefore.

Each site may be arranged to store content information, said terminal being arranged to obtain content information associated with the address and to store said content information in the register thereof.

According to a further aspect of the present invention, there is provided a device comprising: means for receiving information defining a first location in an information network, a

classification service provider as described hereinbefore for classifying the content of the location; and means for identifying a new location in the information network having the same type of content as the first location.

According to a further aspect of the present invention, there is provided a device comprising means for receiving information defining a desired content of at least one location in an information network; means for receiving information on the position of a requester; and means for determining a location in said network having said desired content which is relevant to the position of the requester.

Brief Description of the Drawings

For a better understanding of the present invention and as to how the same may be carried into effect, reference will now be made by way of example to the accompanying drawings in which:-

Figure 1 shows a schematic diagram of a cellular telecommunications network;
Figure 2 shows a mobile station embodying the present invention;
Figure 3 shows a schematic view of the mobile station of Figure 2 used in conjunction with an information network; and
Figure 4 shows schematically the elements of the cellular telecommunications network which allow access to the Internet.

Detailed Description of Embodiments of the Invention

Reference will first be made to Figure 1 in which three cells 2 of a cellular telecommunications network are shown. Each cell 2 is served by a respective base transceiver station 4. Each base transceiver station 4 is arranged to transmit signals to and receive signals from the mobile stations 6 located in the cell associated with the given base transceiver station. Likewise, each mobile station 6 is able to transmit signals to and receive signals from the respective base transceiver station 4.

The cellular telecommunications network shown in Figure 1 can use any suitable access technique. For example, the telecommunications network shown in Figure 1 may be in accordance with the GSM standard (Global System for Mobile Communications) or may be in accordance with the proposed UMTS standard (Universal Mobile Telecommunication Services). Alternatively, the network shown in relation to Figure 1 can be used in relation to any other standard.

Reference is now made to Figure 2 which shows a mobile station 6 embodying the present invention. The mobile station 6 is a browser capable phone or a wireless application phone which can access the Internet. Alternatively, the browser elements shown in the mobile telephone of Figure 2 can be incorporated in a portable computer which has an appropriate interface. The portable computer may be connected to a mobile station for wireless telecommunications. Alternatively, the computer may have wireless capabilities. The mobile station or the portable computer or both will be aware of network related events.

The mobile station 6 has a browser 10 which is arranged to store bookmarks 12. These bookmarks 12 comprise uniform resource locators URL and are usually independent of the server used by the user. The URL defines the address of a given website which the user wishes to regularly use. As an alternative to Internet uniform resource locators, the bookmarks may be arbitrary service addresses specifying a server and a service within that server. In this latter case, the bookmarks need not conform to the Internet URL format. In some arrangements the bookmark storage in association with the browser may be stored remotely to a server within said information network.

Associated with at least some of the bookmarks are a set of attributes 14. These attributes 14 define the content of the address defined by the uniform resource locator, that is the bookmark. For example, if the bookmark 12 defines a website which includes train time table information for London, the attribute

associated with the bookmark will identify the fact that it is train time table information. The attributes 14 may be stored together with the bookmark 12 or separately. In the latter case, there may be some association information to associate the attributes with the respective bookmarks.

The browser has several elements and is able to understand hypertext code which is received from the server. The browser is also able to execute JAVA or similar languages. The browser is able to receive from the server executable content such as JAVA. The executable content may be in the form of code that is executed in a virtual machine or may be native machine code. The browser may be provided with application programming interfaces which allow the executable content to access functionalities within the mobile station 6 or computer.

Reference will now be made to Figure 3. In Figure 3, the mobile station 6 is shown as being connected to a worldwide webserver 16 via the Internet 15. How this may be achieved will be described in more detail. The server 16 provides a number of websites. For at least some of these websites, attribute information will be stored. This attribute information is stored at the website. The attributes may be associated with the respective bookmarks. These attributes may alternatively be stored in a separate register away from the website itself, for example in a central register. However, in preferred embodiments of the present invention, the attributes are stored at the website associated with the given bookmark.

In an embodiment of the invention, the attributes are received from the website in content response message headers, for example HTTP-response message headers in the case of HTTP protocol (Hypertext transfer protocol).

The type of the website or the type of the uniform resource locators to be stored as bookmarks may be classified using a classification service. In one embodiment of the invention, the

classification service is contacted whenever the user records a new bookmark in the bookmark list in association with the browser. In the alternative, the classification service may be contacted in response to a user request or automatically when a URL is selected when the user is attempting to access a given web site. The classification service provides one or more attributes describing the type of the uniform resource locator. These attributes are then associated with the bookmark for the uniform resource locator. The classification service is provided in association with the uniform resource locator and checks the content of the location associated with that URL. The classification service may be provided in the mobile station, with the register as a separate node in the network or at any other suitable location.

In one embodiment of the invention, the content may be classified using a pattern matching algorithm which counts the occurrences of words and/or data tokens to determine the type of the service. The classification process may also involve the use of neural algorithms to analyse picture or moving picture content. The classification algorithm may be taught using trial material to recognise different, frequently occurring service types. In an alternative embodiment of the invention, the classification service simply stores a URL or for a part of a URL the descriptive attributes. The attributes associated with the URL may have been entered manually for a given set of commonly used URLs. In another embodiment of the invention, the classification service may comprise an Internet search engine, which browses the internet for the occurrence of keywords or tokens matching one or more attributes. The URLs containing these keywords or tokens may then be analysed more closely to provide a more reliable classification. As a result of the browsing done by the search engine, the URL attribute classification can be provided for a set of URLs. The classification may be associated with only a part of the URL e.g. the part identifying the server.

In response to a URL classification request, the classification

service returns the attributes associated with the URL. The classification service may be located either in the user terminal or on a separate server node or in association with the register.

When a user first defines a bookmark and then accesses the associated website, the attributes associated with the site are sent to the mobile station which then stores those attributes in association with the respective bookmark 12. The attribute information may be obtained automatically in response to the user accessing the website or may be accessed in response to a specific request. The specific request may be issued during the course of bookmark recording.

These attributes include information as to the content of the website. In preferred embodiments of the present invention, predefined categories are provided for classifying the content of the websites. Information on the location relevant to the website may be provided either as part of the attribute information or separate therefrom.

Information on the location of a mobile station is available in most if not all of the current standards. Firstly, it will be known in which network a mobile station is located, i.e. whether it is in a home network or in a visiting network. Additionally, the mobile station will also know where it is within the network. This information may just be the cell in which the mobile station is located or may be more detailed information. The geographic position of the mobile station may also be known. When the mobile station has moved, the network automatically notes that the mobile station has moved. In, for example the United States, it is a legal requirement that the location of the mobile station be known for emergency purposes. Information on the location of mobile stations is used for network management.

As shown in Figure 3, a bookmark service register 20 is provided. This register stores for each set of attributes, at least some of the bookmarks of websites which have these attributes along

with location information indicating the location to which the respective website relates. This location information may be part of the attribute information or separate therefrom. This register may be part of the cellular telecommunications network of the mobile station or may be part of the Internet. In an alternative embodiment of the invention, a bookmark service register is provided for each given geographic area so that the website related location information is not necessarily stored in the bookmark service register. The address of the bookmark service associated with the geographic area may be provided for example in cell or network information broadcasts or messages issued from the network in response to location updating or registration.

When the location of the mobile station 6 incorporating the browser 10 changes, the browser 10 automatically sends an update request to the bookmark service requesting updated bookmarks. Alternatively, the user may send a request when the user has moved or requires new local information. The request will include or will be followed by the attributes 14 of the bookmarks 12 which have been stored in the browser 10. The bookmark service 20 receives the request for an update and the attributes. The bookmark service will also receive information as to the current location of the mobile station from the network to which the mobile station is currently attached.

In an alternative embodiment of the invention, the bookmark service is provided with just the bookmarks. In this embodiment, the bookmark service will perform the classification of the URLs to provide matching with local alternatives.

In a further embodiment of the present invention, the bookmark service is just provided with sets of attributes and provides local bookmarks corresponding to these attributes.

In addition to providing bookmarks to requesting terminals, the bookmark service also performs a periodic checking of the bookmarks stored in it. If the URLs in the bookmarks are detected

as being unreachable in a given number of periodic checks, they are removed from the bookmark service register or they get a lower match rating.

The bookmark service 20 will find the set of bookmarks which have the attribute information received from the mobile station. From this set of bookmarks, the bookmarks having the location information matching the location information received from the network are selected. This may consist of one or more bookmarks. One of the bookmarks may be selected. Alternatively two or more or even all of the bookmarks are selected from the set. These selected bookmarks will define the websites which correspond to the current location of the mobile station.

If the attributes of the bookmark stored in the mobile station relate to train times, the bookmark service 20 will use that attribute information and the location of the mobile station in order to ascertain what the new bookmark should be. For example, if the mobile station is now in Paris, the bookmark service will select the bookmark for the website relating to Paris train times.

The bookmark service 20 will send the selected new bookmark(s) for the current location of the mobile station back to the mobile station.

The new bookmark(s) received from the bookmark service may replace the existing bookmark or may be stored as an additional bookmark associated with the old bookmark and/or the attribute information. The latter arrangement has the advantage that when the mobile station returns to its original location, the need to update the bookmarks can be avoided. In the arrangements where the bookmark storage in association with the browser is located remotely on a server, the update request to the bookmark service may be relayed via the bookmark storage server. The bookmark storage should not be confused with the bookmark service providing information on other equivalent sites, the bookmark

storage is just a remotely stored browsers bookmark list. The bookmark storage is as described hereinbefore preferably located in the mobile station but can be provided elsewhere.

As mentioned hereinbefore it may be possible that there is more than one bookmark which satisfies the required attribute and location information. In this case, the best match may be selected by the bookmark service and forwarded to the browser of the mobile station. Alternatively, the bookmark may be selected at random from the available bookmarks which satisfy the required criteria. The browser may be arranged to receive all of the available bookmarks and the user may be able to select the required bookmark.

The location information may be passed to the bookmark service 20 by the mobile station or may be provided by a control element.

The different bookmarks may be arranged into sets such as country, city and network changes. For example, with country bookmarks, a new bookmark would be sought if the mobile station changed country. Likewise, with city specific bookmarks, the bookmarks could only be updated when the mobile station entered a new city. The sets may even be quite localised for use with for example local bus times and cover the area of a few cells. The sets may even include one which is based on the actual location of the mobile station where the bookmark(s) are updated each time the mobile station moves and accesses the worldwide web. This, for example, could be used to provide timetable information associated with a specific bus stop. The bookmarks in a given set may be updated at the same time or at different times.

In one embodiment of the invention, one or more trigger areas may be provided in association with one or more bookmarks. When a location dependent bookmark is provided from the bookmark service register, the bookmark service register may provide one or more trigger areas associated with that bookmark. Where such trigger areas are provided, the position of the mobile station is checked

periodically to see it has left one trigger area and/or entered another trigger area. The periodic checking of the mobile station position may involve geographic positioning procedures. The trigger areas may also define how often the position of the mobile station is checked. The frequency of checking may be deduced automatically by the mobile based on the size of the trigger area. The trigger areas may be geographic areas defined by co-ordinates, individual cells, cell groups, location areas, location area groups, networks or groups of networks, a country, set of countries etc.

Whenever the user moves outside a given trigger area, the bookmarks corresponding to the trigger area are sent to the bookmark service register for updating. Alternatively, the bookmarks may be treated in the browser as old and are indicated as such to the user.

Reference is now made to Figure 4 which shows how a connection is established between a mobile station 6 and a website 16. The mobile station is connected to a base station subsystem 8 which includes a base station. The base station subsystem 8 is in turn connected to a serving GPRS support node SGSN 24 which in turn is connected to a gateway GPRS support node 26. The gateway GPRS support node GGSN 26 is coupled to the Internet 28, via which a connection can be established with a given worldwide website 16 and the bookmark service 20. The arrangement shown in Figure 4 is in the context of a GPRS (General Packet Radio Service) standard. The mobile station 6 has an air interface link with the base station subsystem 22. The base station subsystem 22 forwards data to and from the mobile station 6. The serving GPRS support node keeps track of the mobile stations location and performs security functions and access control. The gateway GPRS support node 28 acts as a gateway between the GPRS network and the Internet 20.

In a modification to the embodiment described hereinbefore, the browser may only store attribute information, without any

bookmarks. In this modification, every time a user selects a given set of attribute information, the relevant bookmark(s) are obtained from the bookmark service.

The embodiment described hereinbefore has described the connection of a mobile station to a website accessible via the Internet. However, it should be appreciated that embodiments of the present invention can be used with any other suitable information network.

The position of the mobile station can be determined using any appropriate method, for example offset time difference, satellite positioning etc.

Embodiments of the present invention have been described in the context of a mobile station or portable computer. However, it should be appreciated that the embodiments of the invention may be used with fixed terminals which may be wired or wireless. For example, if a set of attributes was prestored in the terminal equipment when it is sold, the correct websites associated with the stored attributes for the location of the fixed terminal could be obtained without difficulty.

In one modification to the described embodiment of the invention, the user may be able to input a desired location and obtain information on the websites associated with that location. This desired location may be the same or different to the current location of mobile station. For example if the user intends to visit a given location, he can obtain information on that location in advance.

It should be appreciated that embodiments of the present invention can be used with any suitable wireless telecommunications system including spread spectrum systems such as code division multiple access, time division multiple access and frequency division multiple access or hybrids thereof.

CLAIMS:

1. A terminal for use with an information network, said terminal comprising a register for storing content information defining the content of one or more sites in said information network to enable automatic location of sites having content corresponding to the content defining information.

2. A terminal as claimed in claim 1, wherein said register is arranged to store information on the address of at least one site having the content defined by said content information.

3. A terminal as claimed in claim 1 or 2, wherein said terminal is arranged to send a request for address information on a site which has the content defined by said content information.

4. A terminal as claimed in claim 3, wherein said request for address information requests the address of a site which has the content defined by the content information and which additionally relates to the current location of the terminal.

5. A terminal as claimed in claim 3, wherein said request for address information requests the address of a site which has the content defined by the content information and which additionally relates to a predetermined location.

6. A terminal as claimed in claim 4 or 5 when appended to claim 2, wherein said the requested address replaces the current address in the register which is associated with the content information.

7. A terminal as claimed in claim 4 or 5 when appended to claim 2, wherein said requested address is stored in the register along with a home address associated with the same content information.

8. A terminal as claimed in any of claims 4 to 7, wherein said

terminal is arranged to select one of a plurality of requested addresses which are associated with the same content information.

9. A terminal as claimed in any one of claims 4 to 7, wherein said terminal is arranged to store a plurality of requested addresses which are associated with the same content information.

10. A terminal as claimed in claim 9, wherein said terminal has means for permitting the user to select at least one of said stored addresses.

11. A terminal as claimed in any one of the preceding claims, wherein said terminal is arranged to request at least one address of at least one site corresponding to content information provided by the terminal in response to occurrence of at least one predetermined event.

12. A terminal as claimed in claim 11, wherein said at least one predetermined event comprises one or more of the following:

change of location area of the terminal; the terminal registering with a new network; the terminal entering a different country; the terminal entering a new geographical location; and the terminal leaving a geographical location.

13. A terminal as claimed in claim 11 or 12 wherein said addresses associated with the geographic area are provided in cell or network information broadcasts.

14. A terminal as claimed in any preceding claim, wherein the terminal is arranged to store the address of a server and a service provided by said server.

15. A terminal as claimed in claim 2 or any of claims 3 to 12 when appended thereto, wherein said address is in accordance with the uniform resource locator format.

16. A terminal as claimed in any preceding claim, wherein said

terminal is a wireless terminal.

17. A terminal as claimed in any preceding claim, wherein said terminal is incorporated in a portable computer.

18. A terminal as claimed in any of claims 1 to 16, wherein said terminal is a mobile station.

19. A terminal as claimed in any preceding claim, wherein said information network is the Internet and said terminal has browser capabilities.

20. A terminal as claimed in claim 19, wherein said content information defining a site is received in content response message headers from the site.

21. A terminal as claimed in claim 19 or 20 wherein said register provides bookmark storage in association with the browser.

22. A terminal as claimed in claim 3 or any claim appended thereto, wherein said terminal is arranged to obtain information as to its position, said information being used to determine if the terminal is in an area associated with a given site.

23. A terminal as claimed in claim 22, wherein said if said terminal is determined to have left said area, the register is updated.

24. A terminal as claimed in claim 22 or 23, wherein the frequency with which the terminal obtains information on its position is dependent on the area associated with a given site.

25. A terminal as claimed in claim 2 or any claim appended thereto, wherein said terminal is arranged to store the said content information defining a site when a user stores in said register the address of that site.

26. A terminal as claimed in any of the previous claims, wherein said terminal is arranged to obtain the said content information defining a site from a classification service when a user stores in said register information on a site selected by the user.

27. A register for use with an information network, said register storing content information, associated address information identifying sites which contain the content defined by said content information and location information identifying the geographic location with which the site defined by said address information is associated.

28. A register as claimed in claim 27, wherein said information network is the Internet.

29. A register as claimed in claim 27 or 28, wherein said address information comprises bookmarks.

30. A register as claimed in claim 27, 28 or 29, wherein said register is arranged to receive requests for associated address information.

31. A register as claimed in claim 30, wherein said requests comprise content information and geographic location information.

32. A register as claimed in claim 31, wherein said geographic location information comprises:
cell area; group of cells area; location area; group of location area; networks; groups of networks; country; and/or groups of countries.

33. A register as claimed in claim 30, 31 or 32, wherein said register is arranged to output at least one address information associated with the requested content and geographic location information.

34. A register as claimed in claim 33, wherein said register is

arranged to output all of the address information associated with the requested content and geographic location information.

35. A register as claimed in claim 33, wherein said register is arranged to select one or more of the address information associated with the requested content and geographic location information.

36. A register as claimed in claim 35, wherein the selection is made at random.

37. A register as claimed in claim 36, wherein said selection is made in accordance with rules for selecting the best match.

38. A classification service provider, said classification service provider being arranged to classify the content of at least one site of an information network to enable automatic location of sites having a desired content.

39. A provider as claimed in claim 38, wherein said provider provides at least one attribute of the content of said at least one site.

40. A provider as claimed in claim 38 or 39, wherein said content is classified using a pattern matching algorithm.

41. A provider as claimed in claim 38 or 39, wherein a store is provided for storing classification information on the content of at least one site.

42. A provider as claimed in claim 38 or 39, wherein said information network is the Internet and the provider comprises a search engine.

43. A terminal in combination with a classification service provider as claimed in any of claims 38 to 42.

44. A combination as claimed in claim 43, wherein said classification service provider is arranged to receive requests from the terminal for classification of the content of at least one site, address information of which is stored in the terminal.

45. A combination as claimed in claim 44, wherein said requests are sent when said address information corresponding to said at least one site is first stored in said terminal.

46. A combination as claimed in claim 44 or 45, wherein said terminal is arranged to store classification information received from said provider, said classification information comprising said content information.

47. A system comprising a terminal as claimed in any one of claims 1 to 24 and/or a register as claimed in any one of claims 27 to 37.

48. A system as claimed in claim 47, wherein each site is arranged to store said content information, said terminal being arranged to obtain content information associated with an address and to store said content information in the register thereof.

49. A device comprising;
means for receiving information defining a first location in an information network;
a provider as claimed in any of claims 38 to 42 for classifying the content of said location; and
means for identifying a new location in said information network having the same type of content as said first location.

50. A device comprising:
means for receiving information defining a desired content of at least one location in an information network;
means for receiving information on the position of a requester; and
means for determining a location in said network having said

desired content which is relevant to the position of the requester.

51. A method comprising the steps of:

receiving information defining a first location in an information network;

classifying the content of the first location;

identifying at least one other location having the same content as the first location.

52. A method of comprising the steps of:

providing content information relating to at least one location on an information network receiving geographic location information; and

obtaining address information of at least one site having the content defined by the content information related to said geographic position information.

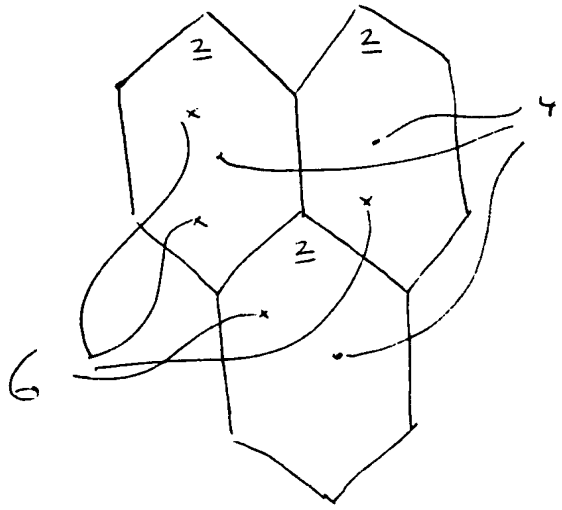

FIGURE 1

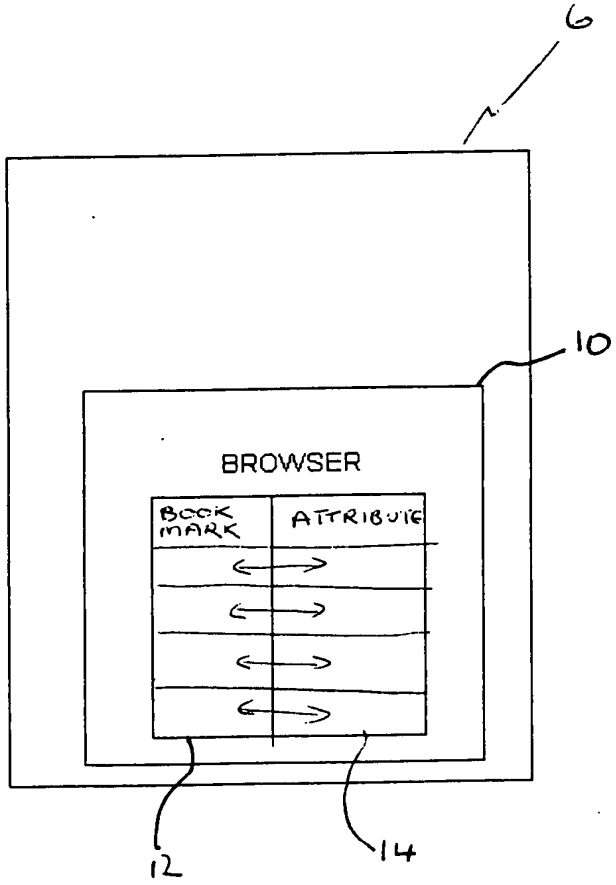

FIGURE 2

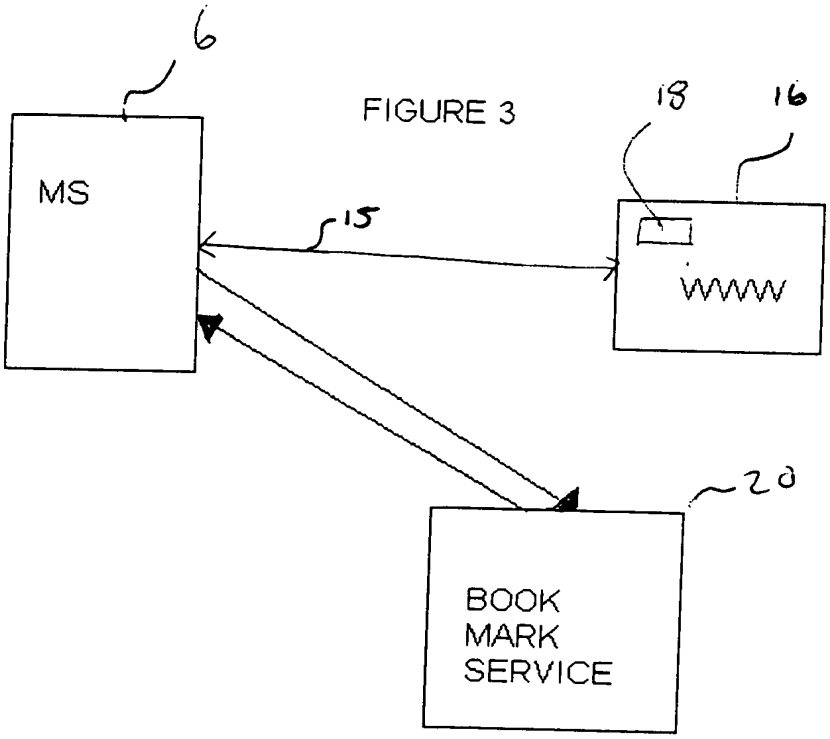

FIGURE 3

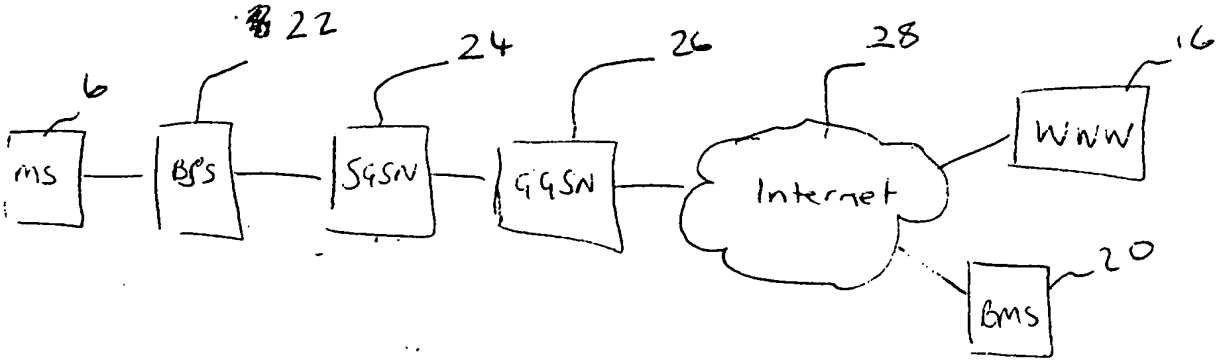

FIGURE 4